REMARKS

By this amendment, Applicants have amended the claims to more clearly define their invention. In particular, claims 3 and 4 have been amended to be in independent form by including therein all of the limitations of the claim or claims from which they previously depended. In rewriting claims 3 and 4 in independent form, Applicants have revised "fire space" to read --free space--. Claims 1 and 2 have also been amended to more clearly define the invention. Claim 1 has been amended to clarify the meaning of the phrase "plunger having a diameter adapted to the free space"; that is, claim 1 has been amended to recite, inter alia, that a radially outer surface of the plunger has a diameter adapted to a radially inner surface of the free space so that, in the course of firing, the radially outer surface of the plunger abuts the radially inner surface of the free space. See, e.g., Figures 1-4. Claim 2 has been amended to clarify that at least a portion of a radially outer surface of the projectile spigot and at least a portion of a radially inner surface of the bore are substantially adapted to one another in diameter. See, e.g., Figures 1-4.

The foregoing amendments merely rewrite claims in independent form, correct a typographical error and clarify limitations already present in the claims and, therefore, it is submitted the foregoing amendments do not raise new issues requiring further consideration and/or search. Moreover, the foregoing amendments are presented in response to the new grounds of rejection in the outstanding Office Action. Accordingly, the foregoing amendments are necessary and could not have been earlier presented.

Therefore, entry of this amendment under 37 CFR 1.116 is requested.

Claims 1, 2 and 9 stand rejected under 35 U.S.C. 102(b) as being anticipated by BE 866 822 to Herstal. Applicants traverse this rejection and request reconsideration thereof.

The present invention relates to a shotgun-barrel projectile. As shown by way of example only in Figure 1, the shotgun-barrel projectile 20 includes a projectile 1 and an intercalation 2 for fitting into a cartridge 20. The projectile 1 exhibits a cylindrical free space 10 on its underside, and the intercalation 2 takes the form of a plunger 21 at its end facing towards the projectile 1, a radially outer surface of the plunger 21 having a diameter adapted to a radially inner surface of the free space 10. The projectile 1 and the plunger 21 are mounted so that before firing the plunger 21 is not wedged in the free space 10. See, e.g., Figure 1. In the course of firing, however, the plunger 21 is pushed into the free space 10 and wedged in the free space so that the radially outer surface of the plunger abuts the radially inner surface of the free space. See, e.g., Figures 2 and 3.

In Figures 1 and 2 of Herstal, the free space 6 is conical and not cylindrical. Moreover, the element 10 of what the Examiner considers the plunger of Herstal has a diameter which is smaller than the diameter of the free space 6. That is, a radially outer surface of element 10 of Herstal does not have a diameter adapted to a radially inner surface of the free space 6 so that, in the course of firing, the radially outer surface of the element 10 abuts the radially inner surface of the free space 6. Rather, there appears to be a gap between the radially inner surface of the free space 6 and the outer

surface of the element 10. See, Figure 2 of Herstal. That is, in Herstal, element 10 has a diameter which is smaller than the diameter of the free space 6. This appears to be an important characteristic feature of Herstal because, in the course of firing and insertion of the element 10 into the free space 6, the element 10 slides on the spigot 8 and expands.

Moreover, in connection with dependent claim 2, the Herstal publication does not disclose that the free space includes a spigot and the plunger includes a bore such that at least a portion of a radially outer surface of the projectile spigot and at least a portion of a radially inner surface of the bore are substantially adapted to one another in diameter.

Because of these differences in structure, the projectile of Herstal functions differently than the projectile set forth in various ones of the present claims. That is, in Herstal, firing and insertion of the plunger into the free space bring about a wedging of the plunger and therefore of the intercalation with the projectile by increasing the diameter of the plunger 10 or hole 11. In the shotgun-barrel projectile of the present invention, firing and insertion of the plunger into the free space can bring about a wedging of the plunger and therefore of the intercalation with the projectile by decreasing the diameter of the spigot 12 (with diameter reduction 16) and with anchoring or wedging the spigot by the inwardly inclined bevel 13 and the hemisphere 17. In Herstal, the plunger 10 touches the spigot 8 only at a line which surrounds the spigot 8. In the shotgun-barrel projectile of the present invention, the spigot 12 can have a fastening contact with the plunger 21 all over the diameter reduction 16 in a great area. This is a much better wedging or anchoring.

For the foregoing reasons, the Herstal publication does not anticipate the presently claimed invention.

Claims 10, 11 and 13 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Herstal and further in view of U.S. Patent No. 4,538,520 to Schmitz.

The Examiner has cited the Schmitz patent as allegedly teaching the projectile wherein the intercalation consists of a plastic material and a projectile consists of a readily deformable material comprising lead. However, clearly nothing in Schmitz would of remedied the basic deficiencies noted above with respect to Herstal. Accordingly, claims 10, 11 and 13 are patentable over the proposed combination of documents, at least for the reasons noted above.

Claim 12 stands rejected under35 U.S.C. 103(a) as being unpatentable over Herstal in view of Schmitz and further in view of U.S. Patent No. 4,587,905 to Maki.

The Maki patent discloses an assembly of a wad and a slug for a shotgun cartridge, the wad and slug being coaxially connected to each other by way of male and female connectors provided on the wad and the slug without play between the connectors, the assembly comprising peripheral projections spaced from one another in the axial direction of the assembly.

The Maki patent has been cited by the Examiner as allegedly teaching a case retracted inwards 180ºC. However, clearly nothing in Maki would have remedied the basic deficiencies noted above with respect to Herstal and

Schmitz. Accordingly, claim 12 is patentable over the proposed combination of documents, at least for the reasons noted above.

Applicants note the indication of allowable subject matter in claims 3-8. In view of the foregoing amendments, claims 3-8, along with the remaining claims, are in condition for allowance.

In view of the foregoing amendments and remarks, entry of this amendment and favorable reconsideration and allowance of all of the claims now in the application are requested.

Please charge any shortage in the fees due in connection with the filing of this paper, to the deposit account of Antonelli, Terry, Stout & Kraus, LLP, Deposit Account No. 01-2135 (Case: 306.46102X00), and please credit any excess fees to such deposit account.

Respectfully submitted,

ANTONELLI, TERRY, STOUT & KRAUS, LLP

/Alan E. Schiavelli/
Alan E. Schiavelli
Registration No. 32,087

AES/at
(703) 312-6600